

ATOMIC ENERGY *newsletter*[®]

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
ROBERT M. SHERMAN, EDITOR. PUBLISHED BI-WEEKLY BY ATOMIC ENERGY NEWS CO., 1000 SIXTH AVENUE, NEW YORK 18, N. Y.

April 15, 1958
Vol. 19...No. 5

Dear Sir:

Industrial Testing Reactors, Inc., newly-formed company headquartered in Charlotte, N.C., intends to set up testing facilities at stated cost of some \$12 million to handle materials, fuel elements, etc.; location will be on the Pee Dee river, between Wadesboro and Rockingham, about 50-miles east of Charlotte. The facility's nuclear test reactor will be furnished by General Electric Co's atomic power equipment department, San Jose, Calif. Consulting engineer will be Ralph M. Parsons Co., Los Angeles, with J. A. Jones Construction Co., Charlotte, acting as general contractor. Edwin Jones, president of J. A. Jones, is one of the five Charlotte people who have organized the project. His associates include Dwight L. Phillips, a real estate developer; David McConnell, an attorney; Haywood Robbins, attorney and general counsel for Jones Construction; and Franklin Grown, an insurance agent. (Other BUSINESS NEWS, p. 2 this LETTER.)

Contract for \$370,000 has been awarded by the USAEC to Commonwealth Associates, Inc., Jackson, Mich., for design and construction supervision of buildings to house experimental devices and associated apparatus for the Model C Stellerator (thermonuclear) facility at Princeton University. Commonwealth was selected by the Commission from a list of 15 qualified firms. Involved is design of two buildings; one is for research devices and the other for motor generator equipment. (Firm known as C Stellerator Associates, joint venture of Radio Corp. of America and Allis-Chalmers Manufacturing Co., is engaged in designing and building the thermonuclear research facility to be located at Princeton. It is expected to be in operation in late 1960 or early 1961.) (Other CONTRACT NEWS, p. 2 this LETTER.)

Two new books, Our Nuclear Adventure by D. G. Arnott, and The Atomic Age and our Biological Future by H. V. Brondsted provide a means for the general reader to understand the potentials and dangers of applied nuclear science. Our Nuclear Adventure, by a British author, considers the entire range of nuclear work, with emphasis on that in the United Kingdom. The Atomic Age and our Biological Future, describes with a minimum of technical language the biological and genetic effects of ionizing radiation. The book is based on a series of lectures to the general public by H. V. Brondsted, who has been Professor of Zoology at the University of Copenhagen since 1948. Both books are issued by Philosophical Library, 15 E. 40 St., New York 16. (Other BOOKS & PUBLICATIONS, p. 5 this LETTER.)

New Canadian uranium find showing high assay will be explored after breakup this Spring by Prospectors Airways who have optioned the find in the Pomeroy Lake area from Voyager Explorations. First work will be a scintillation counter survey and surface sampling. If results warrant, diamond drilling will then be carried out. Also at Pomeroy Lake, which is in Quebec near the Quebec-Ontario border, a group of claims have been optioned by Belleterre Quebec Mines on which was located the original showing. A diamond drilling program has been completed by Belleterre, and the company has announced additional work after breakup.

ATOMIC ENERGY BUSINESS NEWS...

REPORTS MADE TO CONGRESS BY USAEC:- Four recent reports made to Joint Congressional Committee on Atomic Energy by the USAEC covered two power reactor projects, applications of the nuclear hazards indemnity law, and the USAEC's new uranium procurement policy. (The two power reactor projects were suggested by the Joint Committee, despite USAEC disinterest.) One reactor project report, prepared for the USAEC by Kaiser Engineers assisted by ACF Industries, covered in some 12 volumes an engineering and design study for construction of a prototype gas-cooled, graphite-moderated nuclear power plant using natural uranium. Studies of Britain's Calder Hall-type plant, work at Oak Ridge and Hanford, etc., were part of the report. Evaluating the report adversely, the USAEC said cost estimates for such a plant precluded production of economically competitive electric power; it did note potential for future cost reduction, but favored plant fueled with enriched rather than natural uranium.

Another report was a similar study covering construction of a dual purpose experimental plant producing both power and plutonium; site would be Hanford Plutonium Works where the U.S.'s most advanced plutonium reactors are in operation. Here again, the USAEC registered opposition to such a project. General conclusions of the report were that such a dual type reactor could produce plutonium in adequate volume provided medium amounts of electrical energy (500,000 kw) were being generated. However, the report noted, revenues from the power would be "only marginal" in helping to reduce plutonium costs.

The report on the operation of the Nuclear Hazards Indemnity Act discussed changes considered in permanent regulations, and discussed the need of a model indemnity law for the states. Public comment will shortly be asked by the USAEC on such permanent regulations, and a model bill will be proposed for enactment by states which now have laws forbidding their agencies from waiving immunity from public liability.

Modification of its uranium procurement policy was covered by another USAEC report which provides for limited expansion of the domestic uranium procurement program. The action will give operators new USAEC procurement contracts for mill concentrates, where ore reserves have been developed prior to Nov. 1, 1957. Contracts will be given for mills in five areas: (1) Southeast Texas, probably Duvall county, for 600 tons of ore per day; (2) North Dakota and South Dakota, 600 tons of ore per day (these are lignites and milling problems are yet to be fully resolved); (3) Wyoming, 1700 tons of ore per day; (4) Colorado Front range, 200 tons of ore per day; and (5) Nevada Austin, 200 tons of ore per day. There are six areas where adequate mill capacity exists, but a more equitable allocation among the mining properties should be made, the report states. These are (1) White Canyon-Monument Valley, Utah-Arizona; (2) Eastern Wyoming-Black Hills, S. Dakota; (3) Salt Lake City, Utah; (4) Moab, Utah; (5) Grants, N.M.; and (6) Spokane, Wash. Areas where adequate ore markets exist, the report noted, include (1) Uravan mineral belt, Colo.; (2) Cameron district, Arizona; (3) Shiprock district, N.M.; (4) Lakeview, Ore.; (5) Baggs-Maybell, Wyoming-Colo. (Action was result of uranium industry protest when USAEC last October curtailed its domestic uranium buying. The report also observed that a sizeable market for nuclear fuel was developing on the European continent and in other areas where nuclear power is developing. The question of licensing such sales abroad is under active consideration by the Commission, the report added.)

EXPORT SALE OF NUCLEAR RESEARCH REACTOR MADE:- Nuclear research reactor will be furnished National Tsing-Hua University in Taipei, Taiwan (Formosa) by General Electric Co.'s atomic power equipment department following negotiations by International General Electric Co. Waddell Associates of Taipei will be architect-engineers on the project. The reactor, of 1,000 thermal kw capacity, will be of the open pool type and will use 20% enriched uranium as fuel. The existing atomic energy bilateral agreement between the U. S. Government and Nationalist China provides legal basis for these arrangements. (The Taipei reactor is third of its type General Electric is selling to different countries; the other two are being built for Spain and Venezuela.)

CONTRACT AWARDED:- Low bid of \$498,577 (of 12 received) made by C-L Electric Co., Pocatello, Idaho, has resulted in contract award by USAEC for an electrical substation at the Commission's national reactor testing station, Idaho Falls, Idaho. The 132/13.8 kv substation will take care of the Experimental Breeder Reactor II area of the testing station.

ATOMIC ENERGY FINANCIAL NEWS...

INDUSTRIAL FIRM HAS GAIN IN NUCLEAR BUSINESS:- Westinghouse Electric Co. has put substantially more nuclear business on its books in the first two months of 1958 than in the same period in 1957, Gwilym A. Price, company board chairman told the firm's annual meeting in Metuchen, N.J., last fortnight. At present, he said, negotiations on other new business are more active than they have been in several months. However, the company will have lower first quarter earnings this year, compared with the like period in 1957, Mr. Price stated; in the first period last year the company earned \$14,198,000 or 82¢ a common share on net sales of \$475,686,000.

INSTRUMENT FIRMS SHOW CHANGED PROFIT PICTURE:- Tracerlab, Inc., manufacturer of nuclear instruments, had a net profit in February and March of this year, Samuel S. Auchincloss, president, told the company's annual meeting last fortnight. He noted that these were the first profits in two years. Since the company had a poor month in January, it still had a loss for the first quarter of this year, although it was less than last year's first quarter, he stated.

Sales of Beckman Instruments, Inc., for the fiscal year ending next June 30 will be about the same as the \$38 million registered for fiscal 1957, or slightly lower, Arnold O. Beckman told the company's annual meeting. In the six months ended Dec. 31, 1957 Beckman had an \$82,000 net loss, Dr. Beckman said, and noted that in the third quarter which ended March 31 "there won't be much profit". He declined to forecast net income for fiscal 1958 for Beckman Instruments, which produces measuring and scientific instruments including a number for nuclear applications.

NEW FINANCING FOR CANADIAN URANIUM PRODUCERS:- To raise sufficient cash to get its operation to maximum production, Can-Met Explorations has issued some \$2,900,000 in general mortgage bonds, and arranged a bank loan of \$2,500,000. The bonds, which are being underwritten by Ross, Knowles & Co., and W. C. Pitfield & Co., bear interest at 6½% and carry a bonus of 250 Can-Met shares per \$1,000 bond. They are due Apr. 15, 1963. (Earlier bond issues by Can-Met were for a total of \$18 million. The company, which holds Eldorado Mining & Refining contract for \$79,061,080 worth of uranium precipitates, had shipped some \$2 million worth by April 1st of this year.)

A \$7 million general mortgage bond issue carrying 6½% interest and a bonus of 75 shares per \$500 principal amount bond is being offered by Stanleigh Uranium Mining Corp., to provide the company with adequate capital requirements to bring its mine and mill into production. Capital expenditures will now total \$33,402,719 the company states; this is a revision of earlier estimates of \$24,358,000 which was believed would be adequate for the purpose. A revolving bank credit of \$1,500,000 has also been arranged by Stanleigh for working funds.

PORTFOLIO OF LARGE MINING FIRM STRENGTHENED BY ACQUISITIONS:- Rio Tinto Mining Co. of Canada registered three important movements in 1957, the company's annual report states. These were its acquisition of control of Preston East Dome Mines; its acquisition of control of Pardee Amalgamated Mines; and the amalgamation of eight small companies into Consolidated Frederick Mines in which Rio Tinto has a 46% beneficial interest. Control of Preston and Pardee was through an exchange of stock. (Meanwhile Rio Tinto's uranium mining properties in the Blind River area of Northern Ontario are now at, or being brought up to, a total scheduled capacity of about 19,000 tons of uranium ore per day. The properties are those of Algom Uranium; Pronto Uranium; Northspan Uranium; and Milliken Lake.)

PEOPLE...in nuclear work...

John H. Williams is new director of the USAEC's division of research, and will take his new post April 17. Dr. Williams had been president of the Midwestern Universities Research Association which had developed plans for an accelerator project for a midwest location.

Harry L. Hilyard has been elected president of Industrial Reactor Laboratories, Inc., nuclear research center now under construction at Plainsboro, N. J. (Ten large U.S. industrial firms will jointly own and operate the facilities, expected to be in operation this Summer.)

Everett R. Holles has joined General Atomic division of General Dynamics Corp. as assistant to Frederick de Hoffmann, division general manager of General Atomic. Mr. Holles had been assistant to Lewis L. Strauss, chairman of the USAEC, since October 1954.

Louis H. Roddis, Jr., deputy director of the USAEC's division of reactor development, is resigning this July 15 to become president of Pennsylvania Electric Co., Johnstown, Pa., a subsidiary of General Public Utilities Corp.

NEW PRODUCTS, PROCESSES, INSTRUMENTS...for nuclear lab & plant...

NEW PRODUCTS FROM MANUFACTURERS:- New dynamic condenser electrometer, trade-named Dynacon, is said to be the first such instrument, available commercially, to accept and measure radioactive carbon-14, tritium, or sulfur-35 samples in the solid, liquid and gas phases. It may be used to count samples manually, or used with an automatic sample changer and a chromatogram strip feeder. --Nuclear-Chicago Corp., Chicago 10, Ill.

Portable cobalt irradiator, trade-named Gammalab, is now offered as inexpensive means of utilizing high intensity radiation. Manufacturer states 62 curies of cobalt-60 may be used with safety in the apparatus. --Radiation Appliances, Inc., New York 14, N.Y.

New cold cathode glow tube scaler, Model 131A, for general purpose radioactivity counting, is designed for integral pulse height analysis in scintillation or proportional counting. Instrument is a new version of the original Dekatron glow tube scaler pioneered and developed by this manufacturer. --Baird-Atomic, Inc., Cambridge 38 Mass.

Cadmium strip and foil, said to have 99.95% minimum purity, is now available from this producer rolled to thicknesses down to 0.0005-in. Offering high neutron absorption and corrosion resistance, suggested uses include neutron shields, electronic equipment, etc. --American Silver Co., Flushing, L.I., New York.

MANUFACTURERS' NEWS:- The USAEC has now asked U. S. colleges and universities to submit proposals by May 1st, 1958 if they wish to receive funds to buy laboratory equipment for use in nuclear science and engineering instruction. Three series of USAEC grants have already provided 68 schools with funds totaling \$6,764,388 for purchase of such equipment. The apparatus provided includes 17 training reactors, 15 subcritical assemblies, and other types of equipment. Copies of the criteria used in evaluating proposals for USAEC financial assistance may be obtained from Director, division of reactor development, USAEC. Wash. 25, D.C.

The Richmond, Calif., reactor monitoring center operated by Tracerlab, Inc., has obtained contract from Westinghouse Electric Corp. (Bettis atomic power div.) for specialized nuclear work. The contract covers performance of specialized radiochemical assays of such fission products as cesium, strontium, cobalt, iron, barium, etc. Samples to be handled include radioactive resins, curds, solids, solutions, and water from experimental studies on nuclides.

The Chalk River transistorized 100-channel pulse-height analyzer for nuclear spectrum measurements will now be manufactured (under license) and sold by the Cincinnati division of Bendix Aviation Corp. Uses include making purity checks for radioactive isotopes; searching for oil-bearing strata; and identifying traces of elements in metals and alloys.

MANUFACTURERS' LITERATURE:- New issue of Atomlight (March, 1958), published by New England Nuclear Corp., Boston 18, Mass., lists new compounds the firm offers, some reductions in prices that have been made on its carbon-14 labeled steroids, etc.

Tracerlog, March, 1958, publication of Tracerlab, Inc., Waltham 54, Mass., is now carrying as a new feature, technical topics, in addition to news of the company's products.

A CORRECTION:- Atomic Associates, Inc., the sales representatives whose expansion to cover most of the U. S. was described in the April 1st, 1958 issue of this LETTER, represent Baird-Atomic, Inc., Cambridge 38, Mass., in addition to the other firms listed in the April 1st issue. Since Baird-Atomic is the major manufacturing company represented by Atomic Associates, we take this opportunity to correct and amplify our original listing.

MEETINGS, COURSES, CONFERENCES...on nuclear topics...

SYMPOSIA:- The three day symposium on the genetic effects of ionizing radiation, held in Lausanne, Switzerland last fortnight under the auspices of the Swiss Academy of Medical Sciences, had some 160 scientists from nine Western countries: U. S., Britain, France, Italy, W. Germany, Holland, Belgium, Norway and Switzerland. Statement issued at conference conclusion noted that atmospheric radioactivity caused by nuclear weapons tests was only 1 to 2% of the natural radioactivity to which all life is normally subject. It was also stated that the present increase in atmospheric radioactivity and in radioactive precipitation has no practical importance compared with natural radioactivity, and that present values are not a danger to the health of mankind.

ATOMIC ENERGY PATENT DIGEST...latest grants...

ISSUED April 1st, 1958 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Radiation activated thickness gauge. H. R. Chope, inventor. No. 2,829,268 assigned to Industrial Nucleonics Corp., Columbus, Ohio. (2) Apparatus for the assay of a radioactive sample. W. C. Peacock, G. F. Ziffer, inventors. No. 2,829,269 assigned to Tracerlab, Inc., Boston, Mass. (3) Apparatus for indicating percentage ratios of radioactivity and analogous properties. W. C. Davidon, inventor. No. 2,829,270 assigned to Nuclear-Chicago Corp., Chicago, Ill. (4) Tracing device utilizing radioactive outline of pattern. I. E. Schreck, inventor. No. 2,829,274 issued to inventor of record.

ISSUED April 1st, 1958 to GOVERNMENTAL ORGANIZATIONS:- (1) Remote handling arrangements. D. W. Gims, inventor. No. 2,828,875 assigned to USAEC. (2) Joint between carbonaceous members using molybdenum disilicide bond. E. L. Reed, inventor. No. 2,828,981 assigned to USAEC. (3) Method of producing phosphorous oxychloride. D. H. Reeve, inventor. No. 2,829,031 assigned to USAEC. (4) Lead severing contrivance. W. Widmaier, inventor. No. 2,829,293 assigned to USAEC. (5) Control and fault detector circuit. C. N. Winningstad, inventor. No. 2,829,316 assigned to USAEC.

ISSUED April 8, 1958 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Radiation detector. S. A. Scherbatskoy, inventor. No. 2,830,184, assigned to PGAC Development Co., Houston, Texas. (2) Radiation detector. S. A. Scherbatskoy, inventor. No. 2,830,185 issued to inventor of record. (3) Neutron detector. S. A. Scherbatskoy, inventor. No. 2,830,186 assigned to PGAC Development Co., Houston, Texas. (4) Radiation detector. S. A. Scherbatskoy, inventor. No. 2,830,187 issued to inventor of record. (5) Neutron detector. S. A. Scherbatskoy, inventor. No. 2,830,188 assigned to PGAC Development Co., Houston, Texas. (6) Neutron detector. S. A. Scherbatskoy, inventor. No. 2,830,189 issued to inventor of record. (7) Radioactive source. W. Karp, inventor. No. 2,830,190 assigned to Tracerlab, Inc., Boston, Mass.

ISSUED April 8, 1958 to GOVERNMENTAL ORGANIZATIONS:- (1) Centrifugal casting machine. A. B. Shuck, inventor. No. 2,829,408 assigned to USAEC. (2) Method of chlorinating carbidic furnace products. A. T. McCord, inventor. No. 2,829,948 assigned to USAEC. (3) Separation process for transuranic element and compounds thereof. L. B. Magnusson, inventor. No. 2,830,066 assigned to USAEC.

NOTES:- New group of 70 patented inventions, owned by the U. S. Government, and held by the USAEC, is now available generally on a royalty-free (non-exclusive) basis. The patents, which cover those issued during the period November 5, 1957--January 28, 1958, under numbers 2,811,925 to 2,821,662, are those assigned to the USAEC during that period and previously reported in this NEWSLETTER.

NEW BOOKS & OTHER PUBLICATIONS...on nuclear subjects...

Applications of Atomic Science in Agriculture and Food. Report of a mission of the OEEC's European Productivity Agency which visited research and educational institutions in the U. S. during the period March-June, 1957. 113 pages. O.E.E.C. Mission, Publications Office, 1346 Conn. Ave., N.W., Washington 6, D.C.

Nuclear Reactor Plant Data; Power Reactors. General and technical data on 16 U.S. nuclear power reactors and prototypes. -- American Soc. of Mech. Engineers, 29 West 39th St., New York 18. (\$3.00)

NOTES:- Reactor Core Materials is new quarterly journal on current developments in solid materials; work reported is that sponsored by the USAEC. Subscription rate is \$2.50 annually; orders are to be placed with the Sup't. of Documents, Wash. 25, D. C.

Compilation has been made by Oak Ridge National Laboratory of articles and reports published during 1957 by ORNL staff members. The compilation, which runs to some 34 pages, may be obtained on request to the Laboratory, at Oak Ridge, Tenn.

New cumulative listing of more than 4,000 USAEC reports offered for sale by Office of Technical Services is available from the OTS. The listing, USAEC Research Reports Price List No. 29, may be obtained free from Office of Technical Services, Wash. 25, D. C.

Sincerely,

The Staff,
ATOMIC ENERGY NEWSLETTER

April 15, 1958

